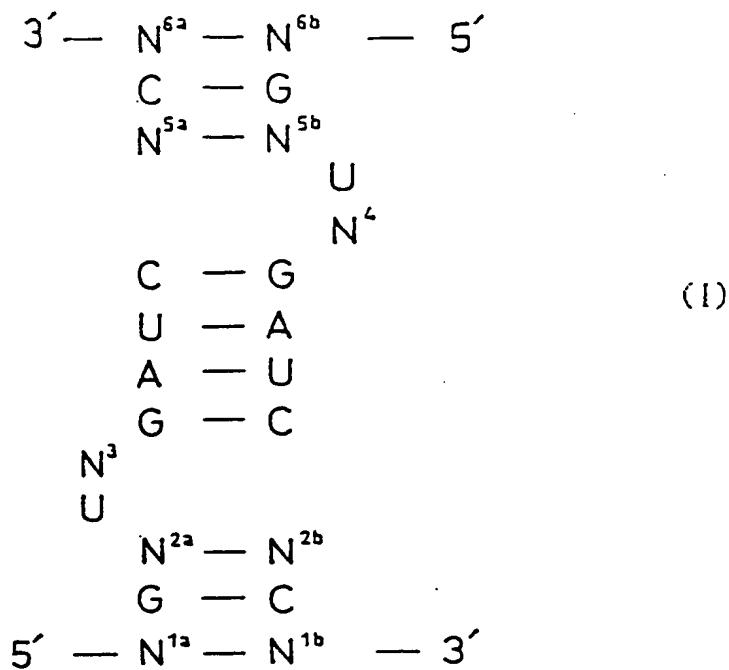


CLAIMS

1. A modulate aptamer being an aptamer constituted by two complementary oligonucleotide chains, which forms a conjugate and stabilizes only in the presence of a target protein.
2. The modulate aptamer according to claim 1, wherein one or both of the two oligonucleotide chains is radioactively or non-radioactively labeled.
3. The modulate aptamer according to claim 1, wherein one of the oligonucleotide chains constituting the modulate aptamer has intramolecularly, mutually complementary sequences of four or more consecutive nucleotides and has a stem-loop structure in the absence of a target protein.
4. The modulate aptamer according to claim 3, wherein a fluorescent substance is bound to the 5' or 3'-end of the oligonucleotide of the stem-loop structure, and a quencher substance for the fluorescent substance is bound to the 3' or 5' end thereof, respectively.
5. The modulate aptamer according to any one of claims 1 to 4, wherein the target protein is HIV-1 Tat protein and/or a fragment thereof.
6. The modulate aptamer according to claim 5, which comprises the nucleotide sequence represented by the following secondary structure (I):



(In the structure, N^{1a} and N^{1b} represent at least 1 pair of nucleobases capable of complementary base pair formation; N^{2a} and N^{2b} represent at least 1 pair of nucleobases capable of complementary base pair formation; N³ and N⁴ each independently represent 1 or 2 nucleobases; N^{5a} and N^{5b} represent at least 1 pair of nucleobases capable of complementary base pair formation; N^{6a} and N^{6b} represent at least 1 pair of nucleobases capable of complementary base pair formation; and solid lines represent hydrogen bonds between nucleobases.)

7. The modulate aptamer according to claim 6, which comprises the nucleotide sequence represented by the following secondary structure:

3' 5'

G - C
 A - U
 G - C
 C - G
 C - G U
 C - G C
 U - A (II)
 A - U
 U G - C
 U C - G
 G - C
 A - U
 A - U
 G - C

5' 3'

(In the structure, solid lines represent hydrogen bonds between nucleobases.)

8. The modulate aptamer according to claim 3, wherein one of the oligonucleotide chains constituting the modulate aptamer has a nucleotide sequence represented by the following secondary structure (III):

U C C C
 | | | |
 U C C
 A G
 | |
 G A
 | |
 U · G
 U - A
 C - G (III)
 G - C
 A - U
 A - U
 G A - 3'
 | |
 C
 G
 5' - C

(In the structure, solid lines represent hydrogen bonds between nucleobases.)

9. A method of detecting a target protein, which comprises radioactively or non-radioactively labeling one oligonucleotide chain of the modulate aptamer according to claim 1, and detecting the presence and/or amount of the target protein with a conjugate formed in the presence of the target protein as an indicator.
10. A method of detecting a target protein, which comprises immobilizing one oligonucleotide chain of the modulate aptamer according to claim 1 on a support, and detecting the presence and/or amount of a target protein with a conjugate formed by addition of the other oligonucleotide labeled radioactively or non-radioactively as an indicator.
11. The method according to claim 9 or 10, wherein the oligonucleotide chain of the stem-loop structure according to claim 4 is used as the oligonucleotide chain labeled.
12. The method according to claim 10 or 11, wherein the immobilization is by specific binding between avidin or streptoavidin and biotin.
13. The method according to claim 9 or 10, wherein the non-radioactive label is fluorescein and the conjugate is detected by the fluorescent signal thereof.
14. The method according to any one of claims 9 to 13, wherein the target protein is an HIV-1 Tat protein and/or a fragment thereof.
15. A kit for detecting a target protein, which comprises the following (a) to (c):
 - (a) a support,
 - (b) one of the oligonucleotide chains of the modulate aptamer according to claim 1 to be immobilized on the support,
 - (c) the other oligonucleotide chain which is radioactively or non-radioactively labeled and forms a conjugate in the presence of a target protein.

16. The kit for detecting a target protein according to claim 15, wherein the target protein is an HIV-1 Tat protein and/or a fragment thereof.
17. The kit for detecting a target protein according to claim 15, wherein one of the oligonucleotide chain (b) is the 5'-chain or 3'-chain of the modulate aptamer according to claim 6 or 7, and the other oligonucleotide chain (c) is the 3'-chain or 5'chain, respectively.
18. The kit for detecting a target protein according to claim 15 or 16, wherein the oligonucleotide chain of the stem-loop structure according to claim 4 is used as the labeled oligonucleotide chain.